# Mega Conference 2014

Arizona's Rising Stars

Changing the paradigm to support a culture of informed decision making

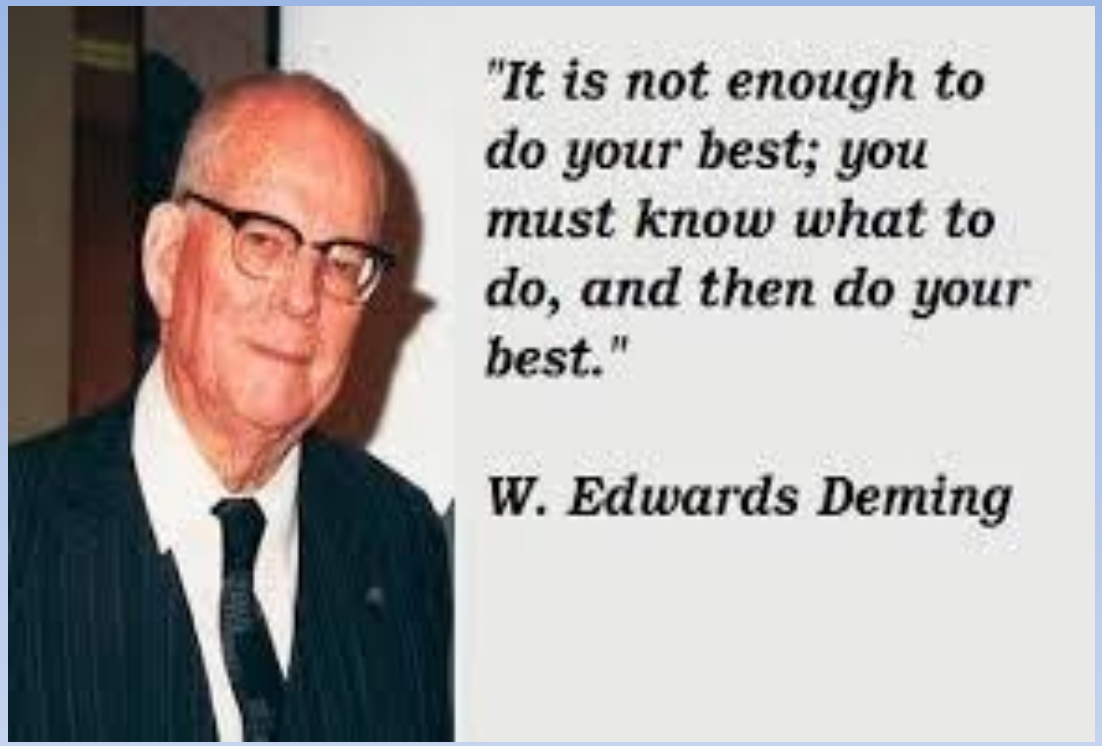
# Objectives

**Knowledge**

- Understand key components of PDSA
- How to use PDSA

**Practice**

- Applying the PDSA cycle
- Document your work
- Reflect on the impact of PDSA




# PDSA: Improvement Cycle for PLCs

a process for change

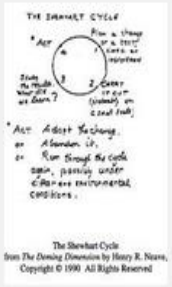
a problem solving process

a way to overcome barriers

classroom-level to LEA-level

Act
Plan
Study
Do

Improve Statistical Process Control (SPC) Training
Date: xx/xx/xx
Act (4)
Plan (1)
Study (3)
Do (2)
Apply lessons learned, make final revisions and schedule (SPC) classes for targeted employees
Develop a road map for SPC training content revision, length, and targeted employees
Assess (SPC) training effectiveness based on formative and summative evaluations
Assess (SPC) training needs, revise training workshops, and complete pilot sessions
Note: This cycle is repeated for further improvement.


THE SHEWHART CYCLE
The Shewhart Cycle
from The Deming Dimension by Henry R. Neave,
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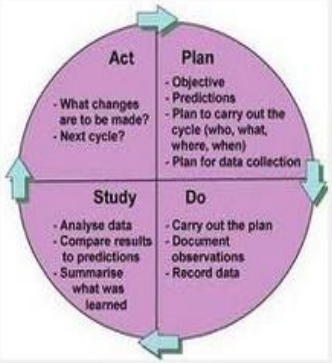
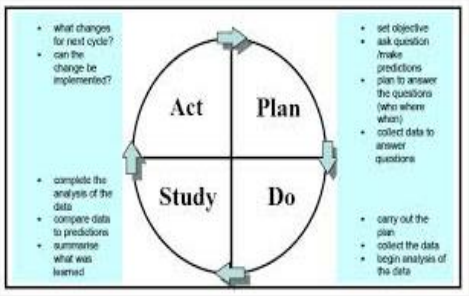
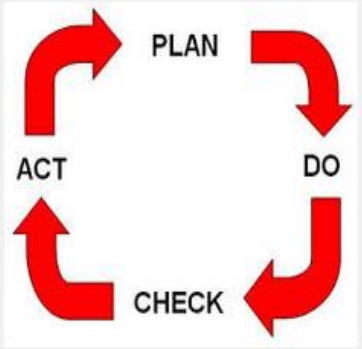
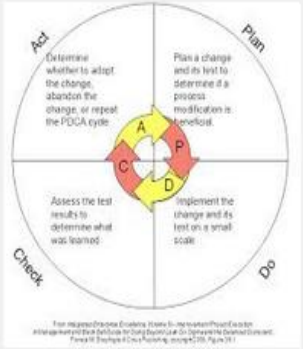
PDSA Improvement Cycle
Act
Plan
Study
Do


Act
- What changes are to be made?
- Next cycle?
Plan
- Objective
- Predictions
- Plan to carry out the cycle (who, what, where, when)
- Plan for data collection
Study
- Analyse data
- Compare results to predictions
- Summarise what was learned
Do
- Carry out the plan
- Document observations
- Record data

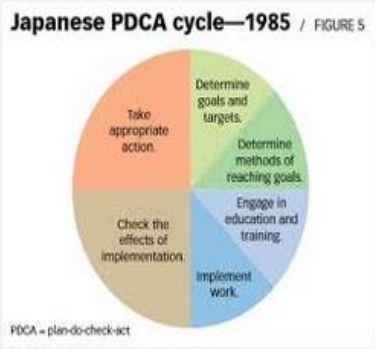

what changes for next cycle?
can the change be implemented?
complete the analysis of the data
compare data to predictions
summarise what was learned
Act
Plan
Study
Do
set objective
ask question /make predictions
plan to answer the questions (who where when)
collect data to answer questions
carry out the plan
collect the data
begin analysis of the data

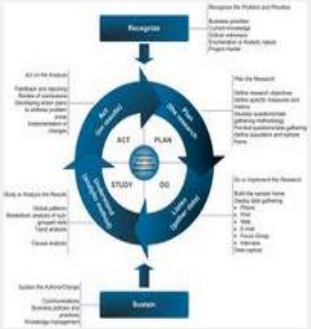

PLAN
ACT
DO
CHECK

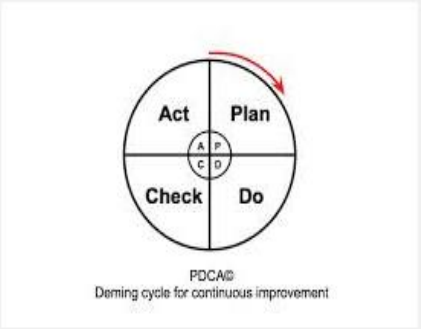

Act
Plan
Check
Do
Determine whether to adopt the change, abandon the change, or repeat the PDCA cycle
Plan a change and its test to determine if a process modification is beneficial.
Assess the test results to determine what was learned
Implement the change and its test on a small scale
A
P
C
D

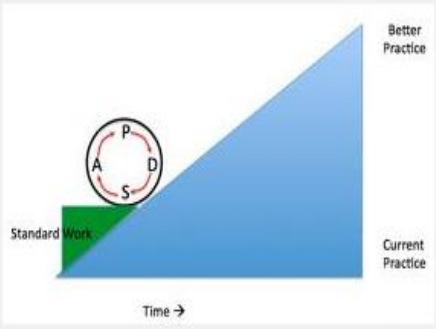
ACT
PLAN
STUDY
DO

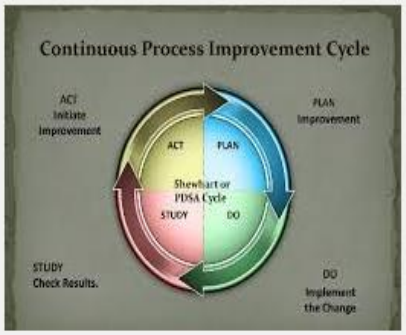
ACT
• What changes are to be made?
• Next cycle?
PLAN
• Objective
• Questions and Predictions (why)
• Plan to carry out the cycle (who, what, where, when)
STUDY
• Complete the analysis of the data
• Compare data to predictions
• Summarise what was learned
DO
• Carry out the plan
• Document problems and unexpected observations
• Begin analysis of the data


Japanese PDCA cycle—1985 / FIGURE 5
Take appropriate action.
Determine goals and targets.
Determine methods of reaching goals.
Engage in education and training.
Implement work.
Check the effects of implementation.
PDCA = plan-do-check-act

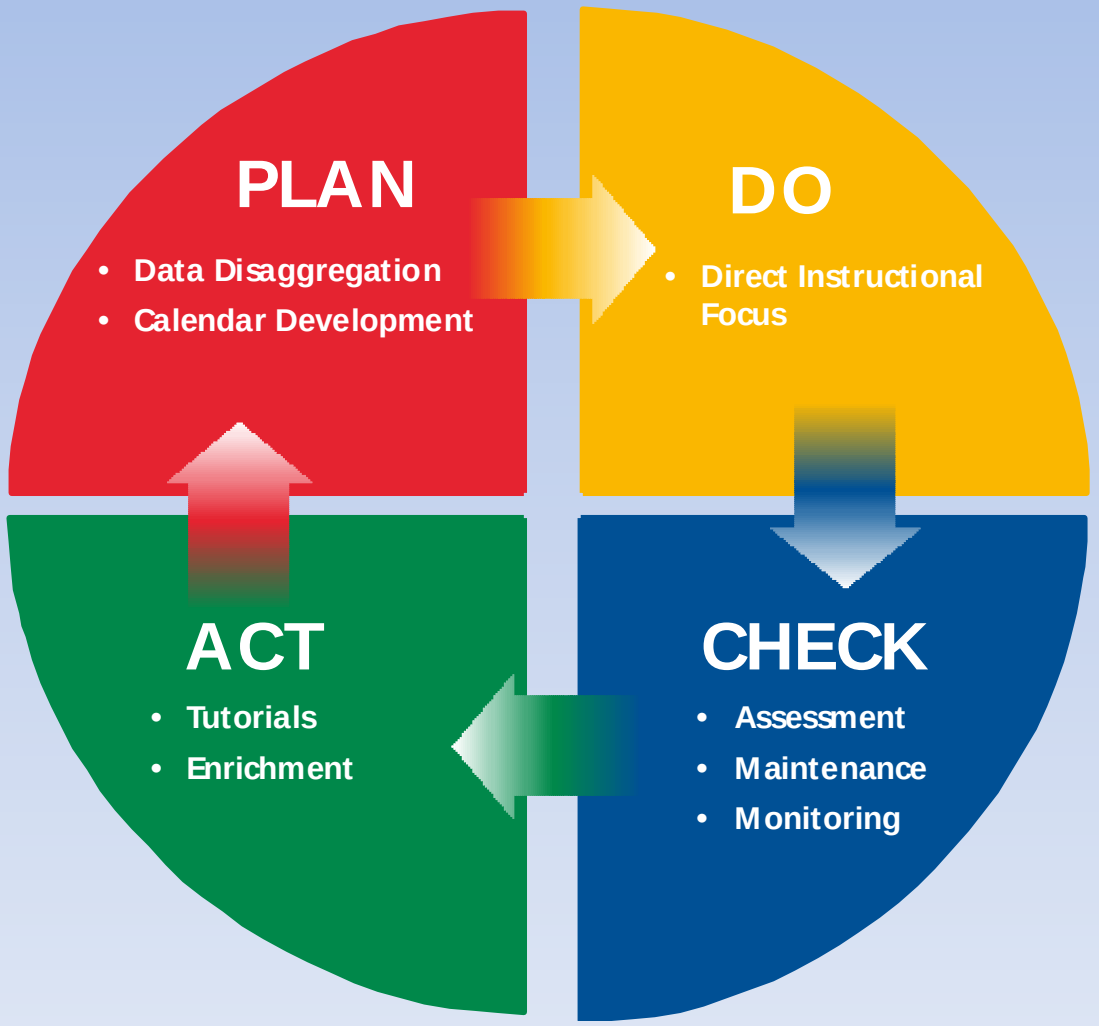

Recognize
ACT
PLAN
STUDY
DO
Evaluate

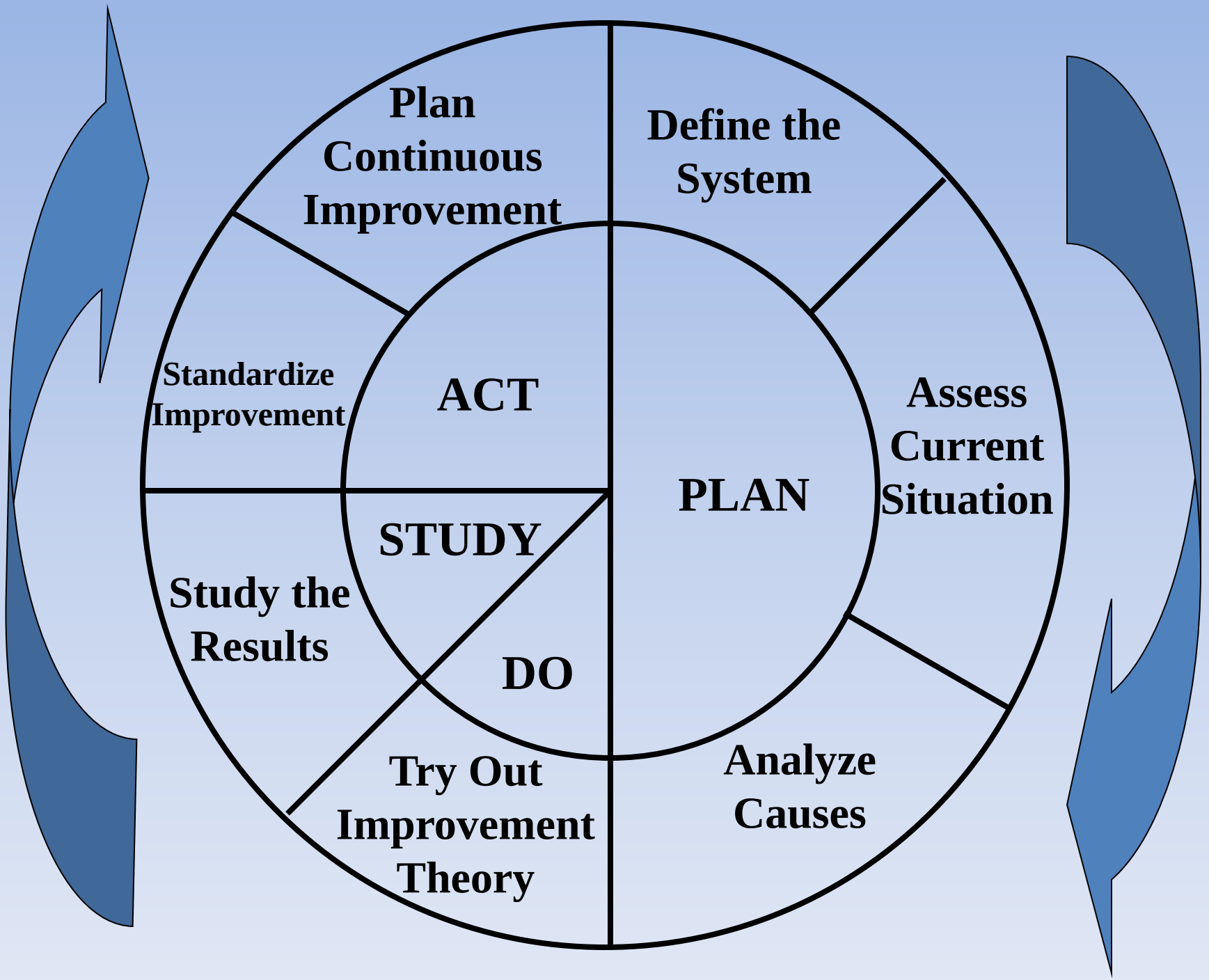

Act
Plan
Check
Do
A
P
C
D
PDCA©
Deming cycle for continuous improvement

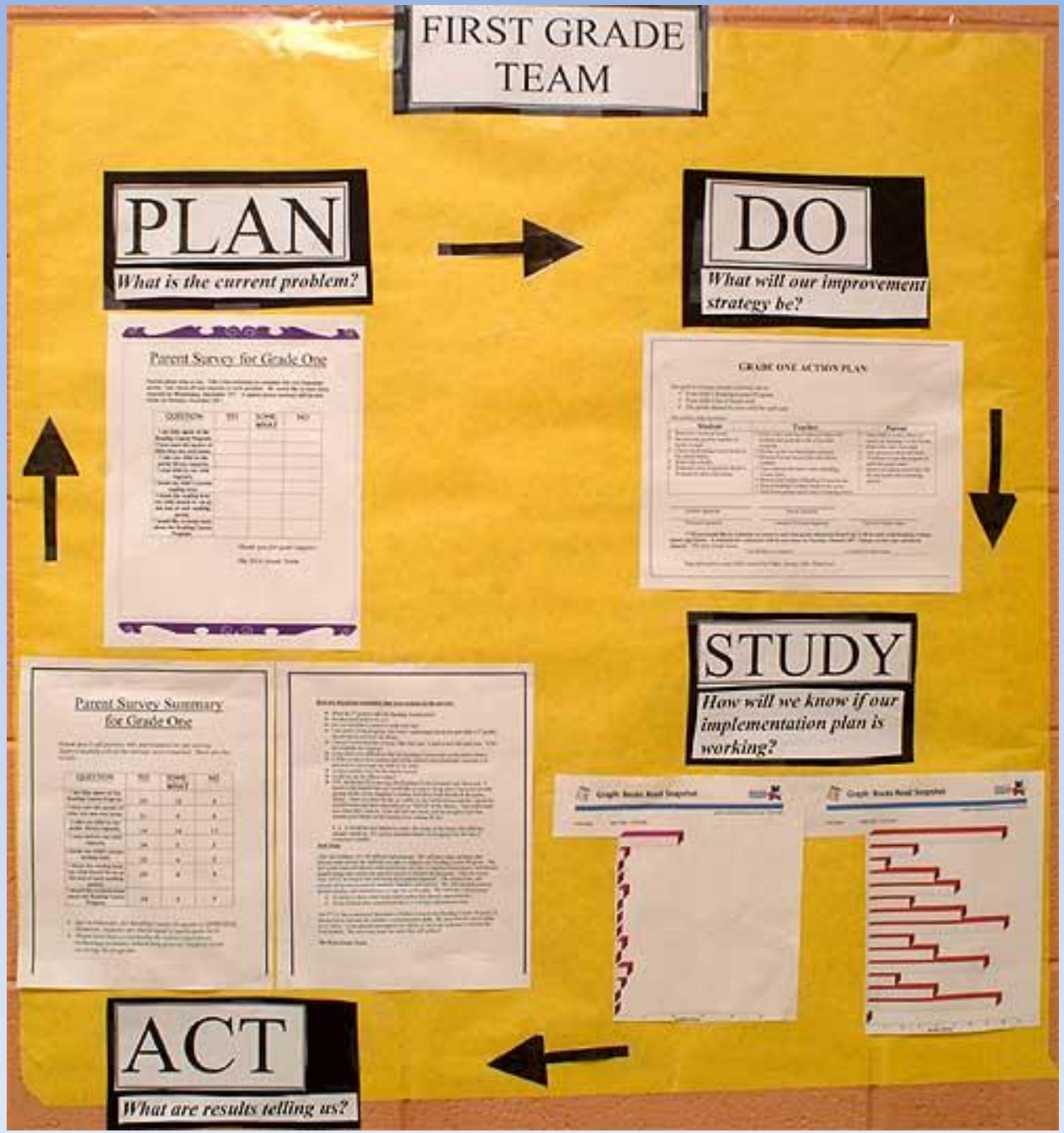

Better Practice
Current Practice
Standard Work
P
A
D
S
Time →


Continuous Process Improvement Cycle
ACT
Initiate Improvement
PLAN
Improvement
Shewhart or PDSA Cycle
STUDY
Check Results.
DO
Implement the Change

# Plan/Do/Check/Act Cycle




Plan
Continuous
Improvement
Define the
System
Standardize
Improvement
ACT
Assess
Current
Situation
PLAN
STUDY
Study the
Results
DO
Try Out
Improvement
Theory
Analyze
Causes


FIRST GRADE TEAM
PLAN
What is the current problem?
DO
What will our improvement strategy be?
Parent Survey for Grade One
GRADE ONE ACTION PLAN
STUDY
How will we know if our implementation plan is working?
Parent Survey Summary for Grade One
ACT
What are results telling us?

# Aspects of Data-Driven Decision Making

- Review the checklist

# Essentials for PDSA

1. Leadership team
2. Collect data
3. Analyze data
4. Develop hypotheses
5. Set goals - SMART
6. Define strategies
7. Evaluate
8. Follow through

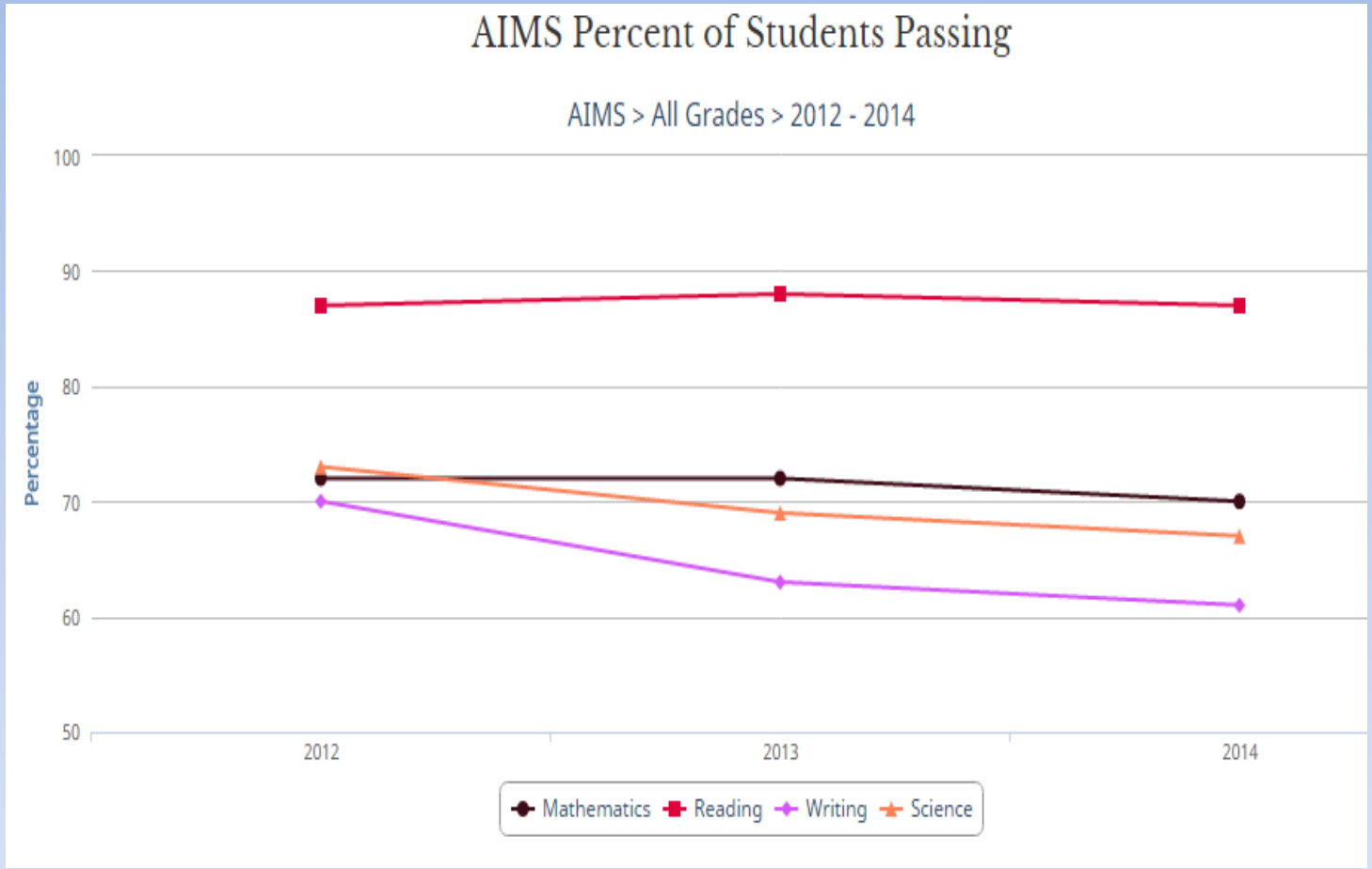
# Practice

- Applying the PDSA cycle
- Document your work
- Reflect on the impact of PDSA

# Looking at the Data

1. What does the data tell us?
2. What does the data not tell us?
3. What are causes for celebration?
4. What are opportunities for improvement?
5. What are our next steps?

# All Students All Grades




Red = Reading

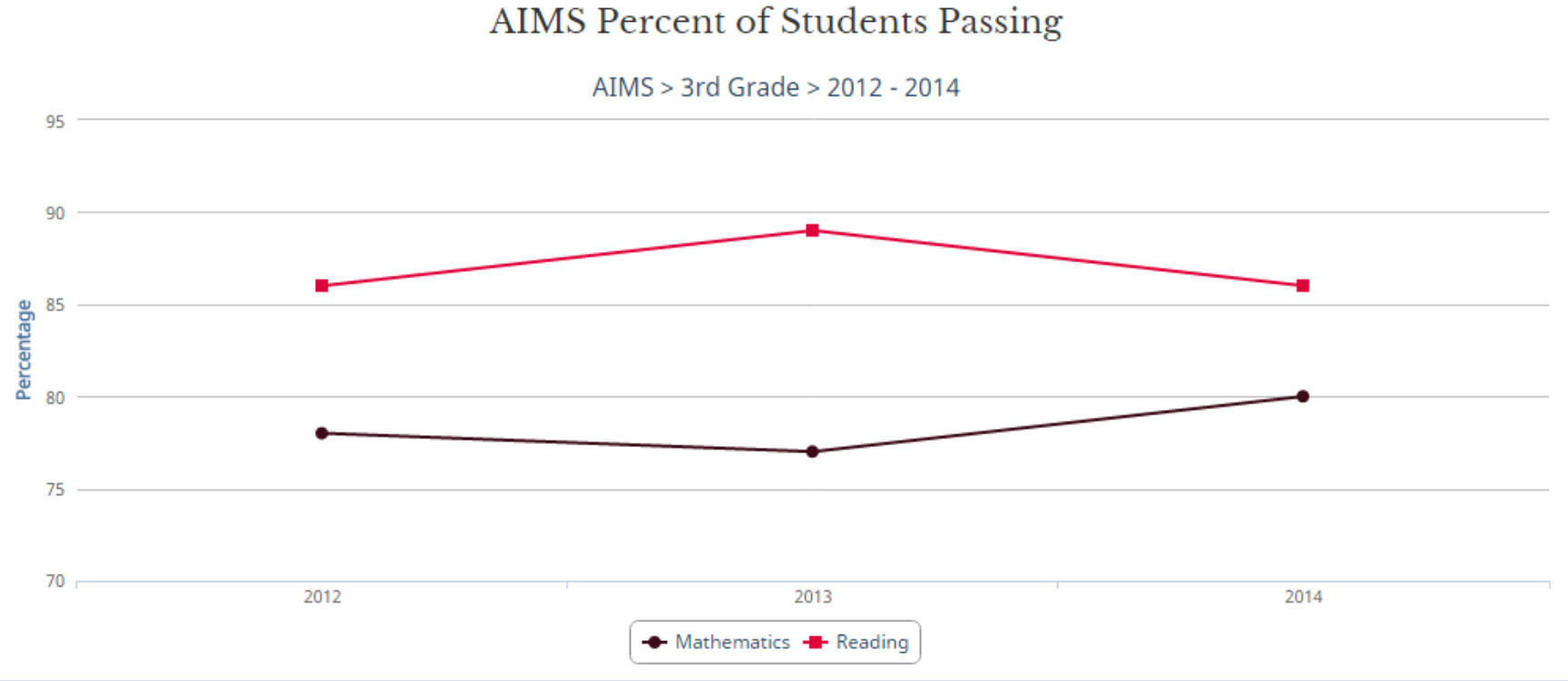
Black = Math

Orange = Science

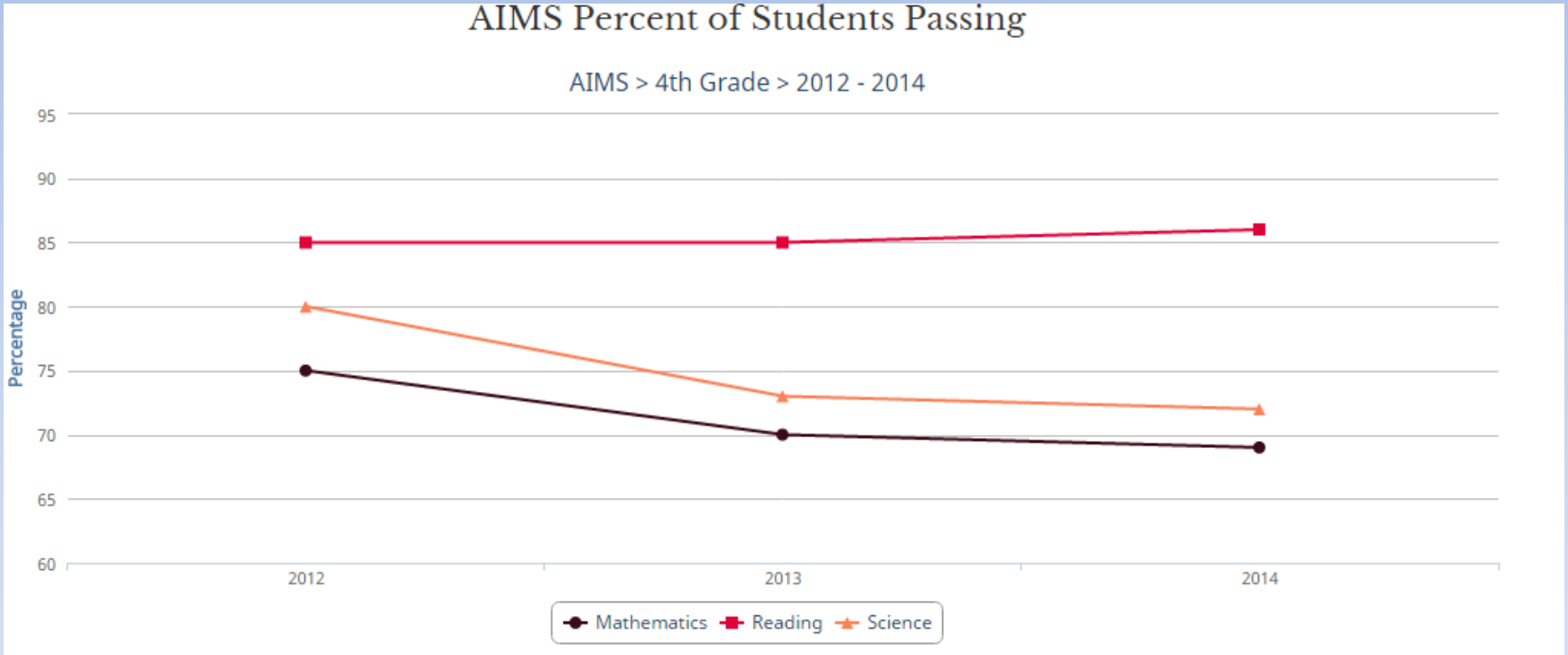
Pink = Writing

Mountain District = 5 elementary 1 middle school 1 high school

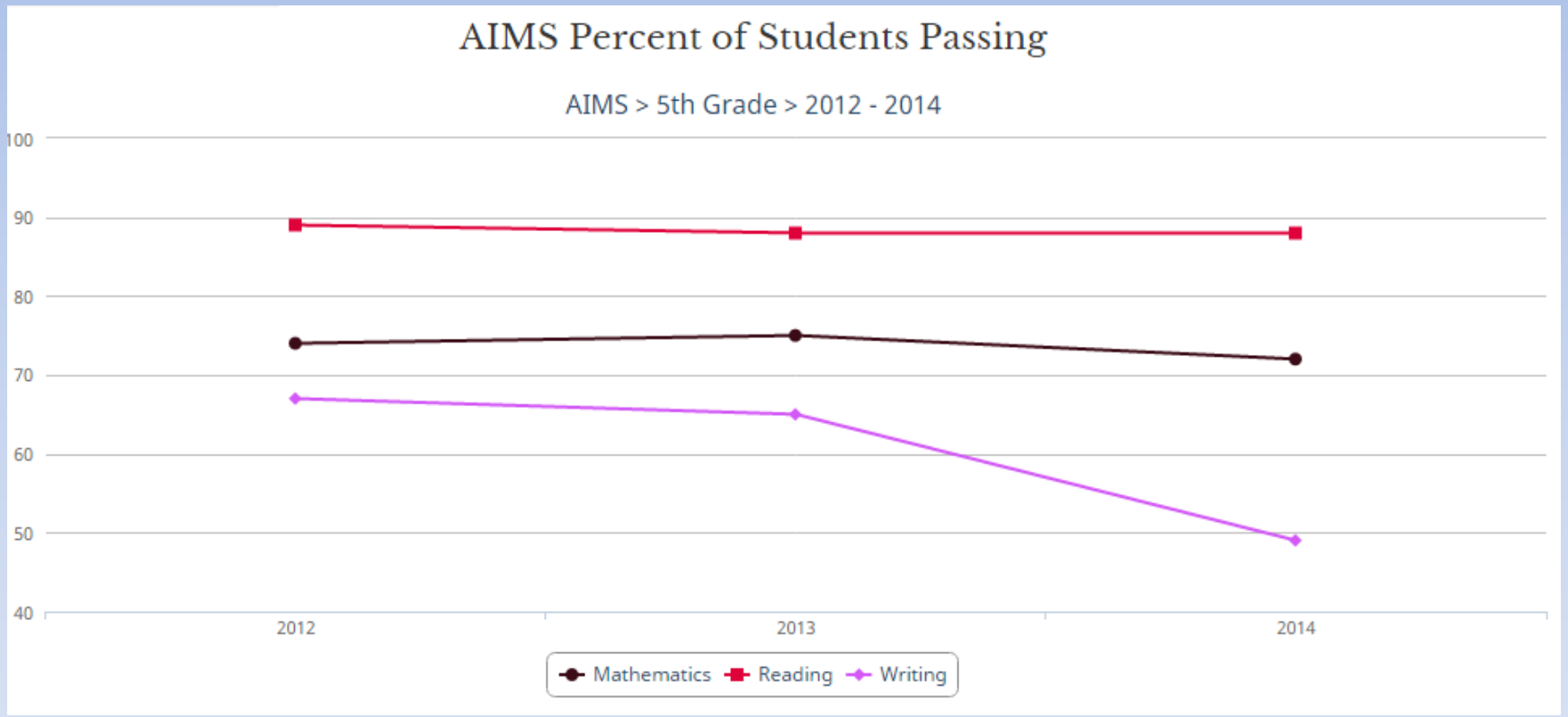
# All Students 3rd Grade



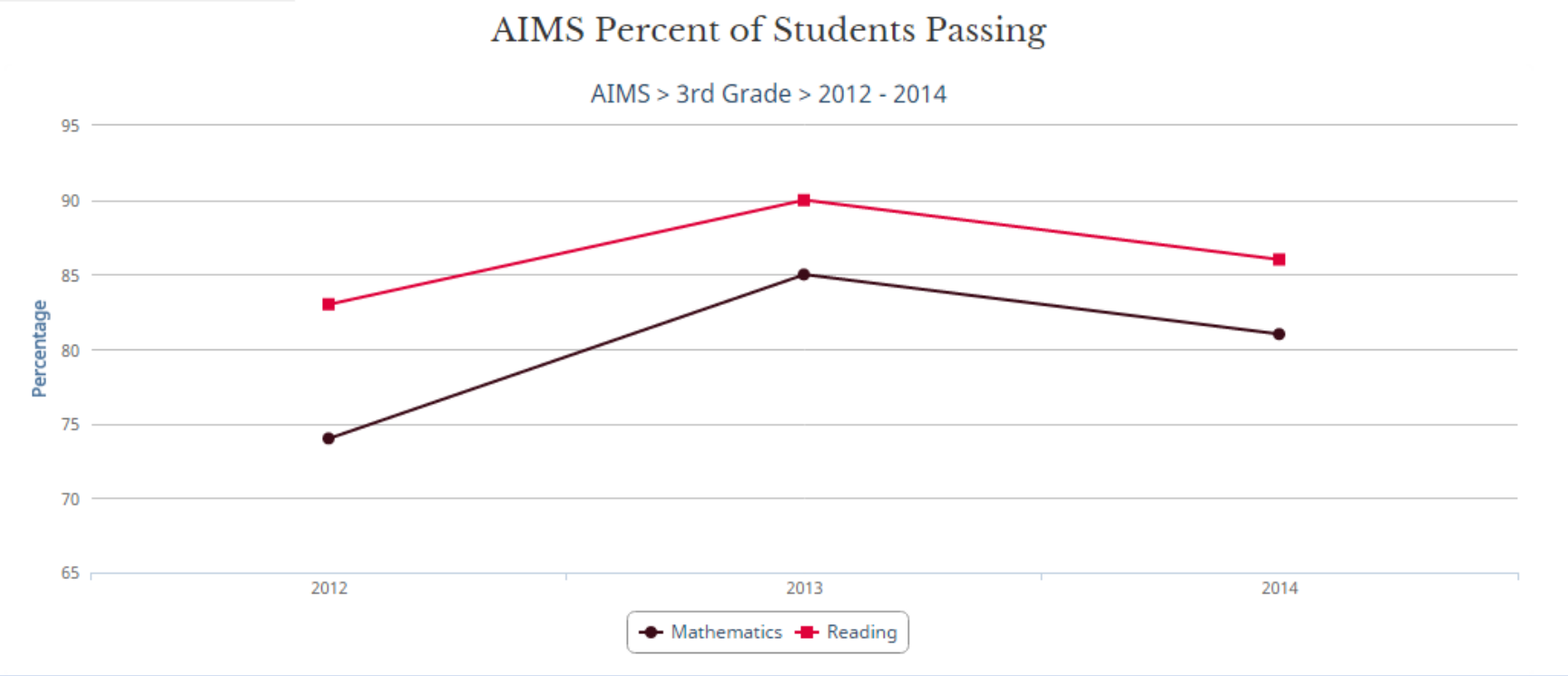
# All Students 4th Grade



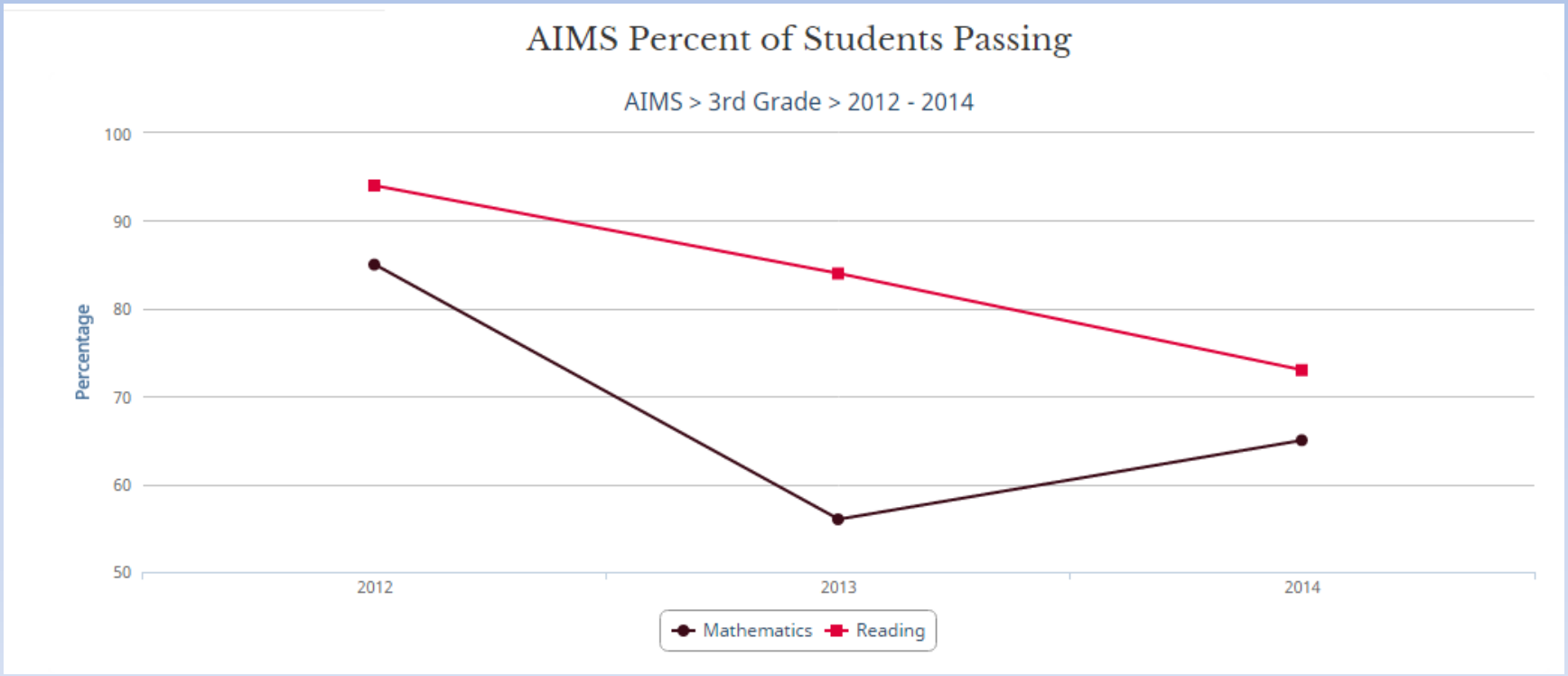
# All Students 5th Grade



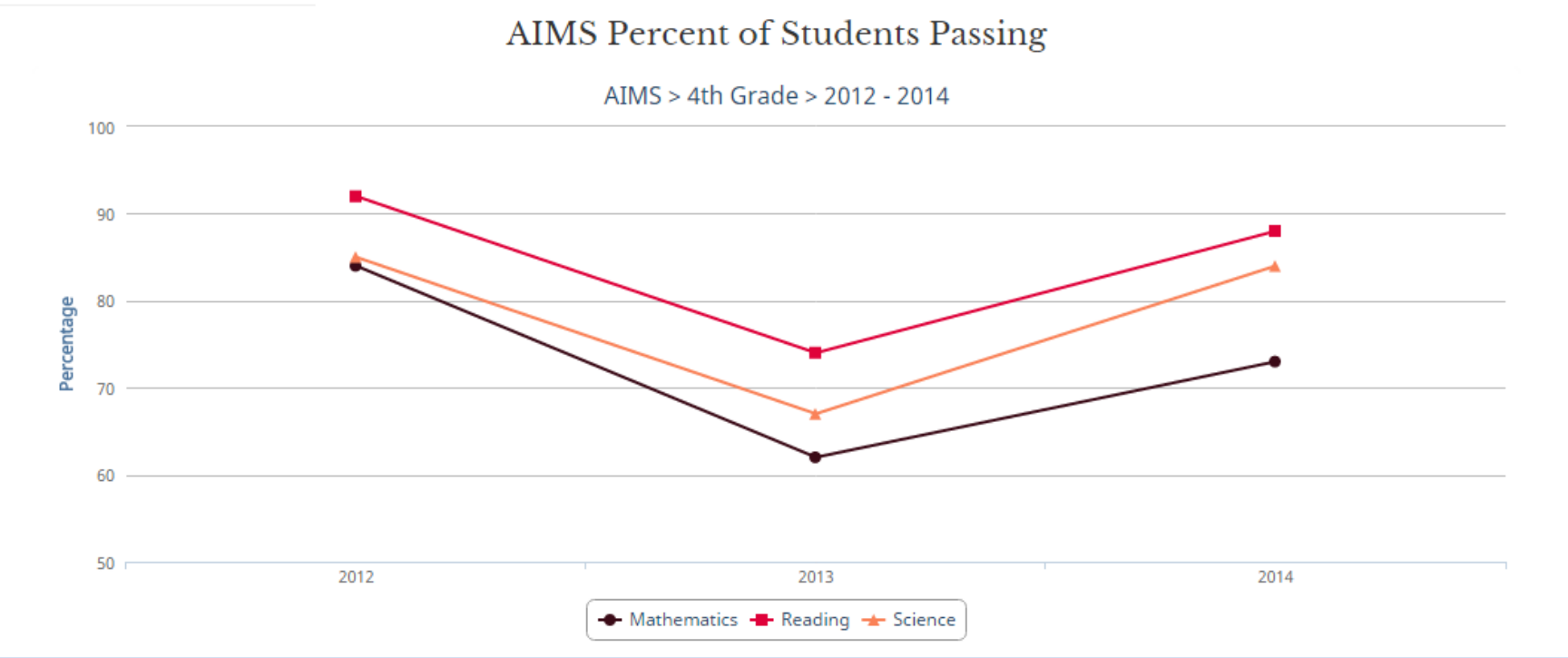
# School 1 – grade 3



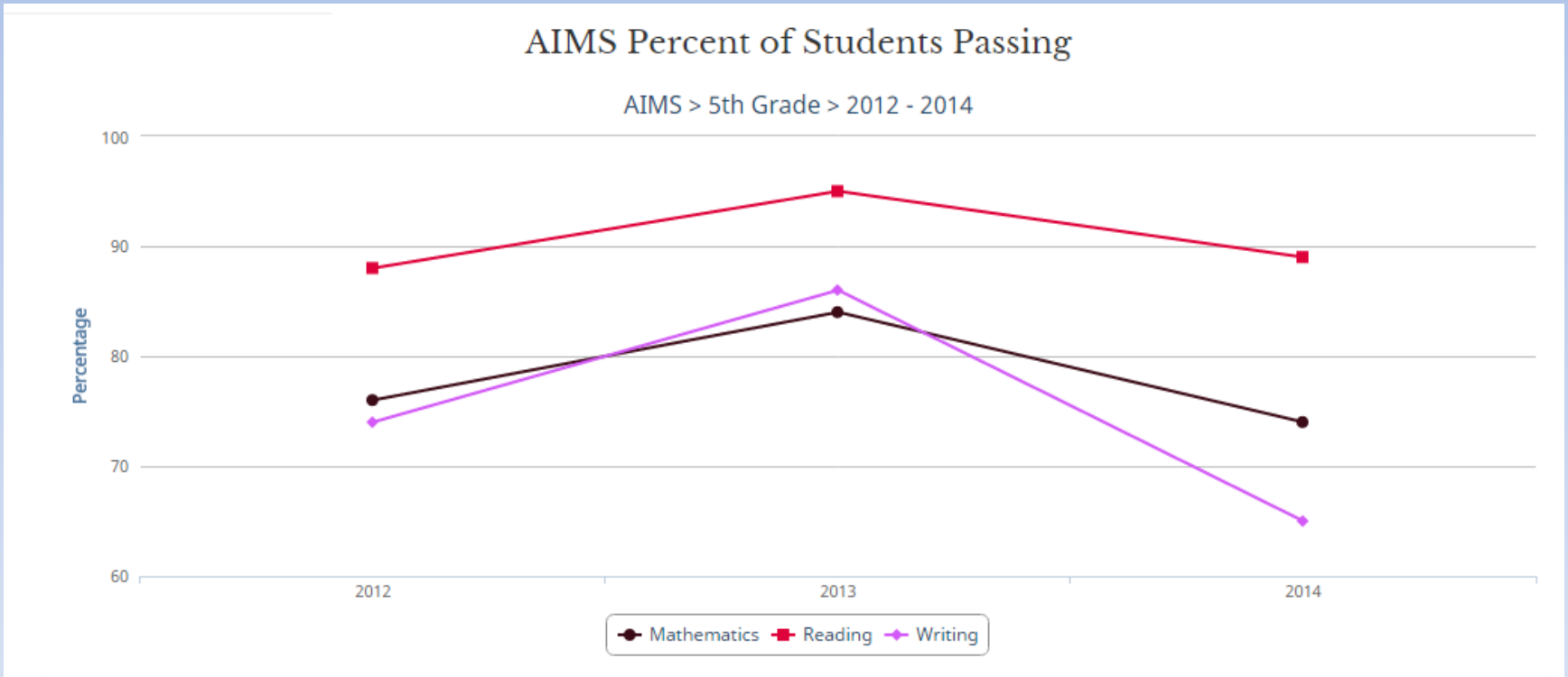
# School 2 – Grade 3



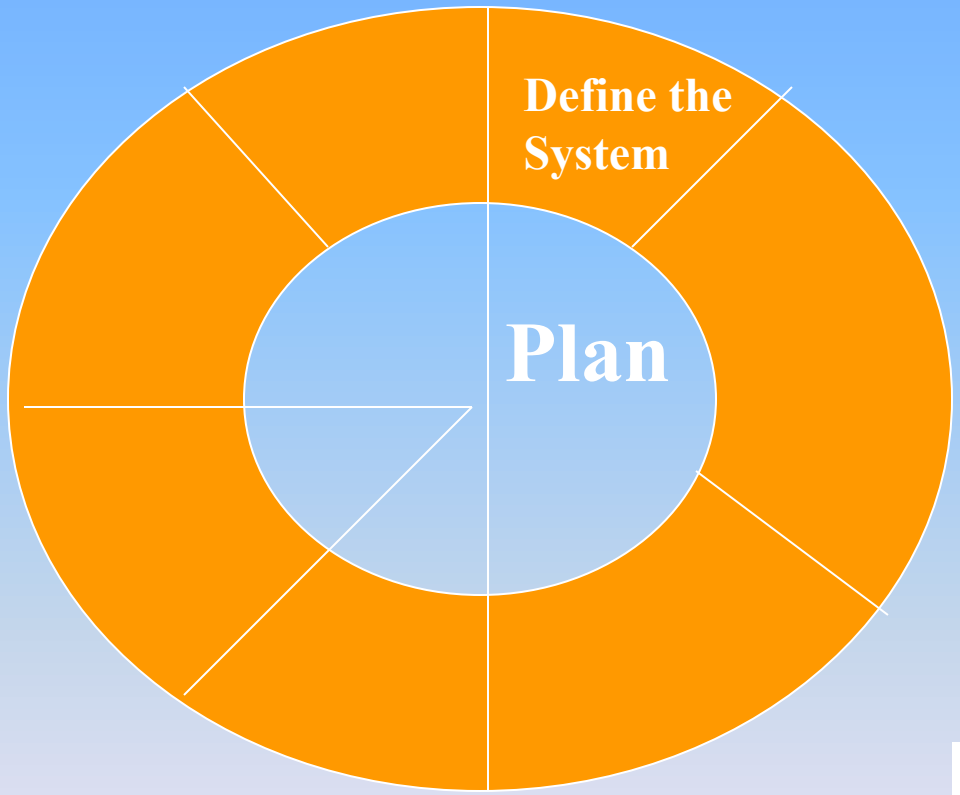
# School 1 – Grade 4

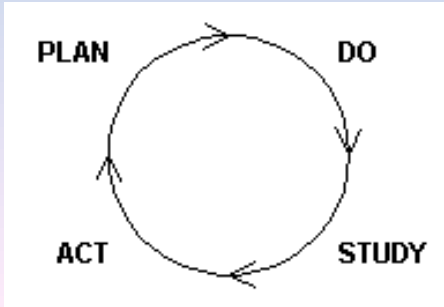


# School 1 – Grade 5

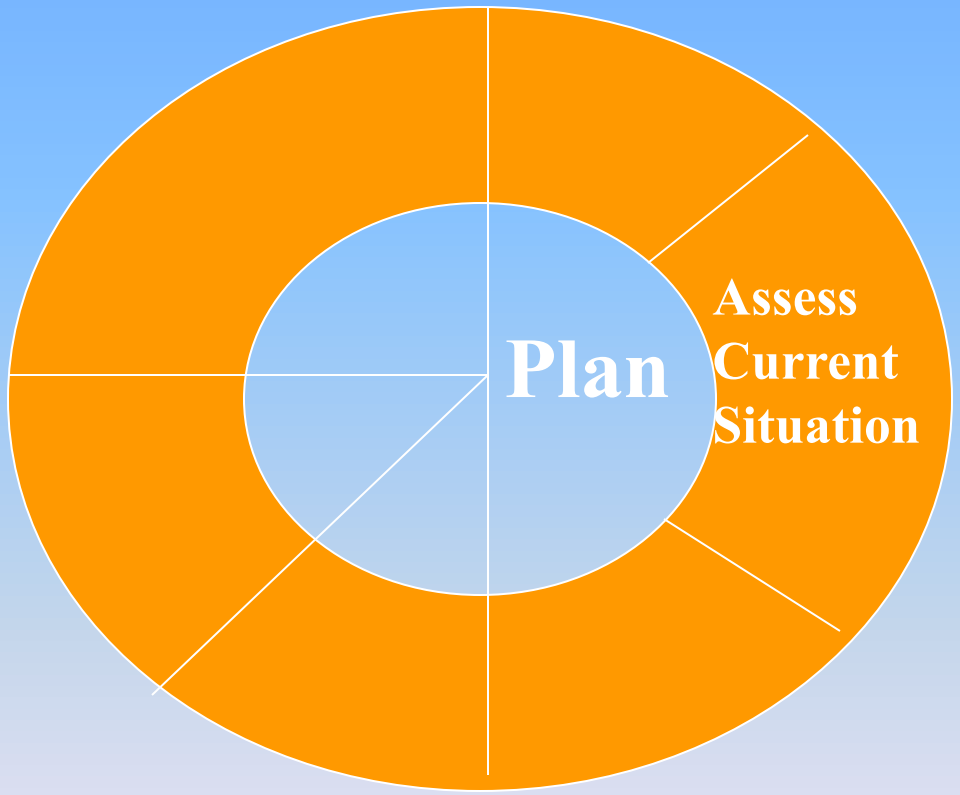


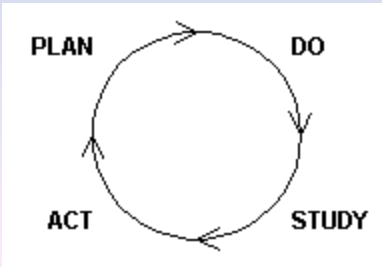
# The Problem- 20% of Students are not proficient in mathematics



# Collect some other data to determine specific problems.



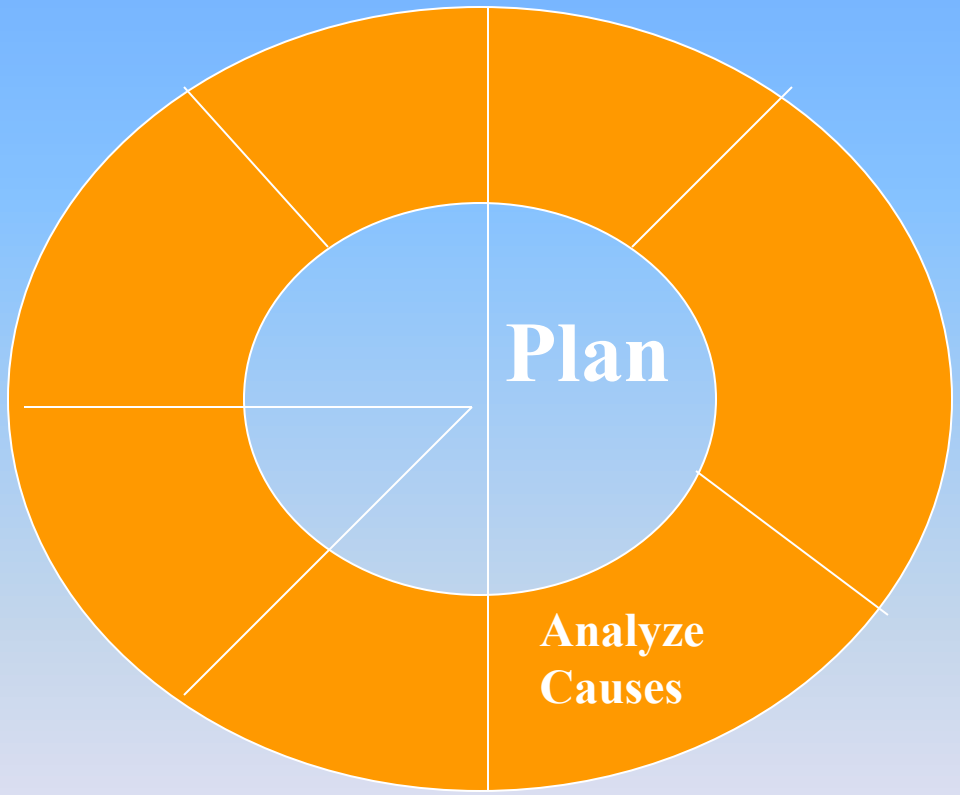



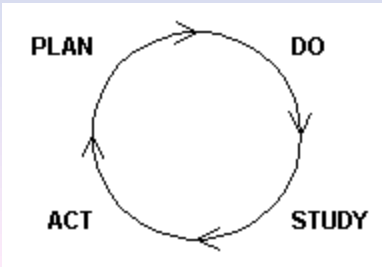
# What other data?

Program evaluations
Teacher and staff data
Other assessment data
Professional development impact

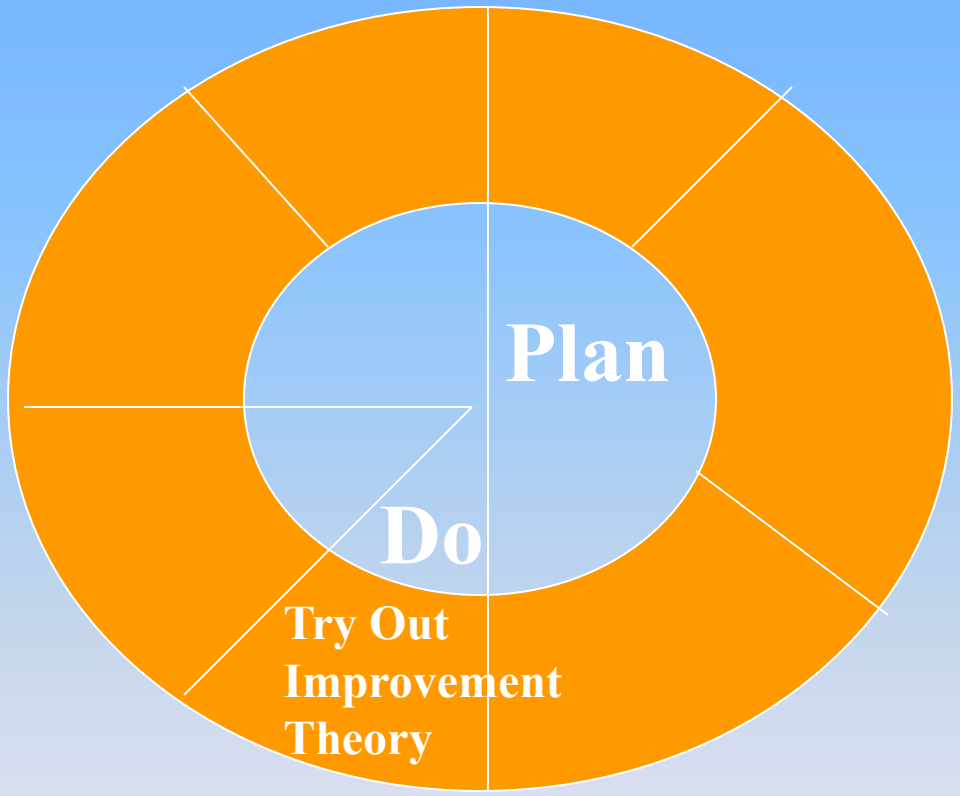
Financial data – available resources
amount expended

# Figure out what's causing the problem.

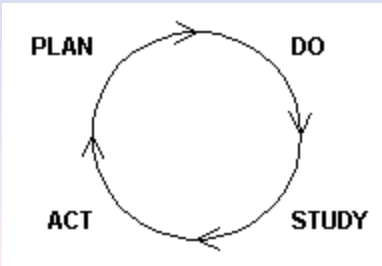


# Try something *different* to improve mathematics results – apply the research.




**SMART GOALS**



# Effectiveness

- 3 most common staffing decisions
  - Teachers/ interventionists (HQ)
  - Paraprofessionals (HQ)
  - Coaches - guidelines on our web page

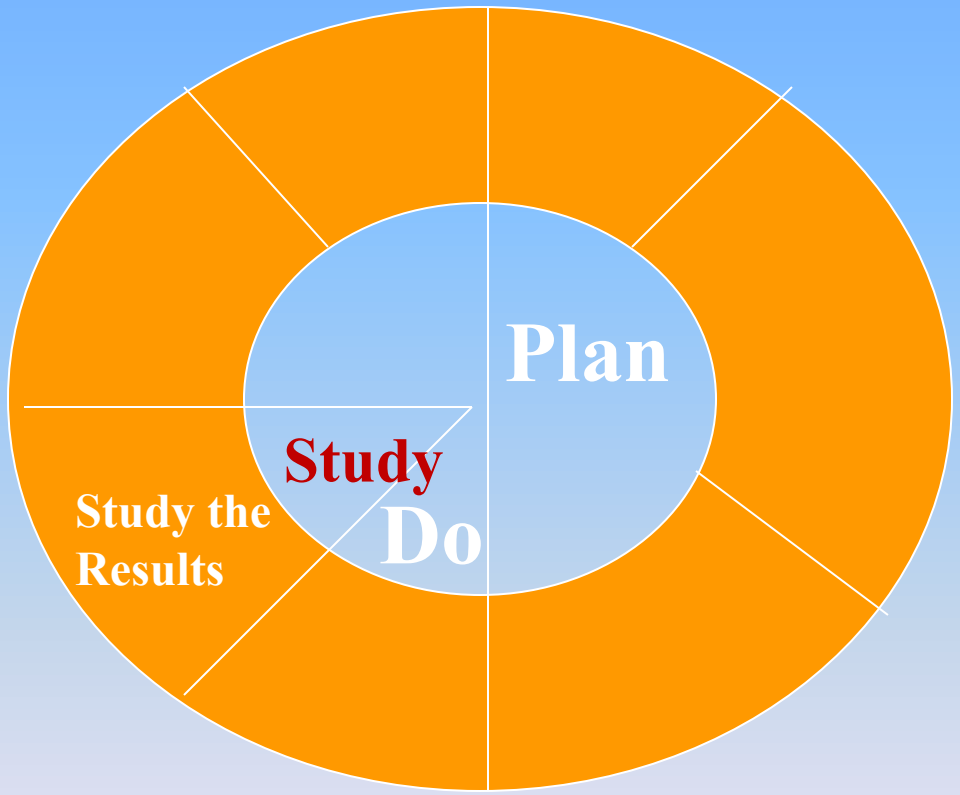
    http://www.azed.gov/no-child-left-behind/files/2014/07/title-i-instructional-coach-guidelines.pdf
- 3 most common program designs (how much time?)
  - Intervention by specialist
  - Tutoring or extra time – after school
  - Summer school

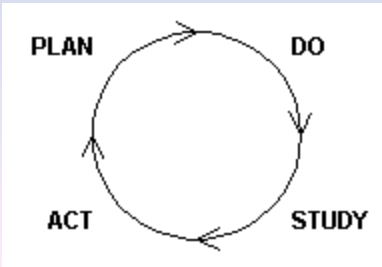
# What other data?

Program evaluations
Teacher and staff data
Other assessment data
Professional development impact

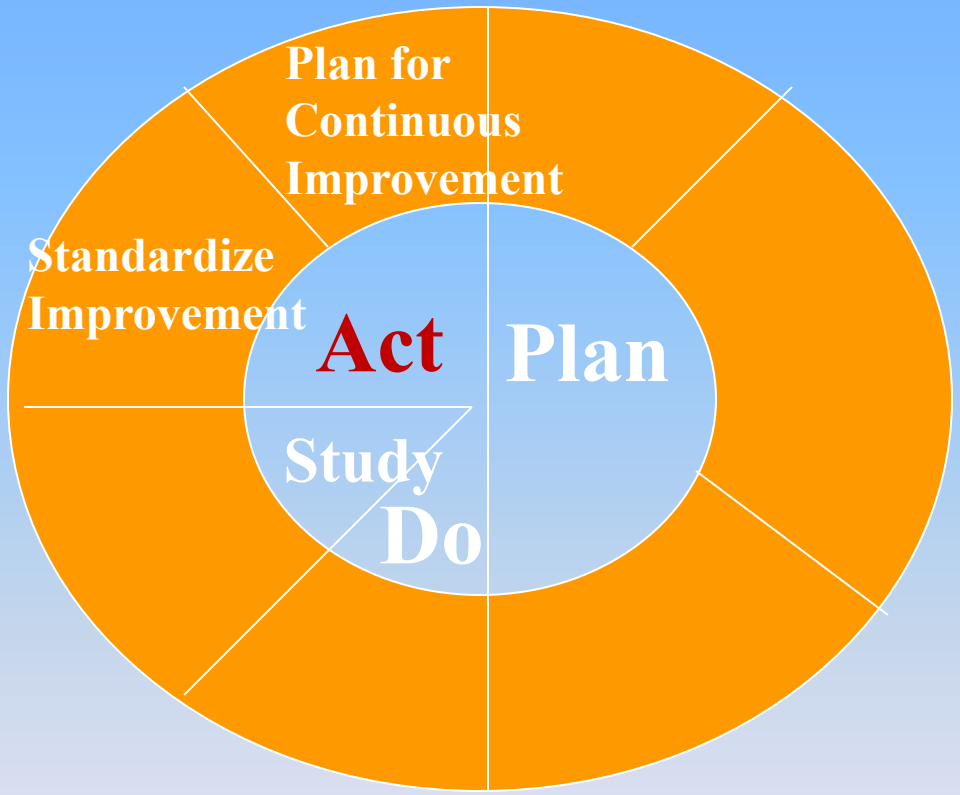
Financial data – available resources
amount expended

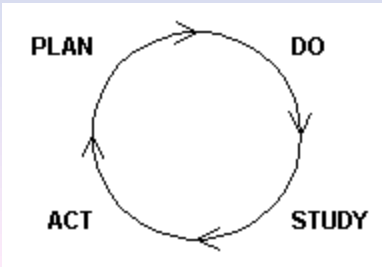
# How did our **strategy** work? Did we make improvements?



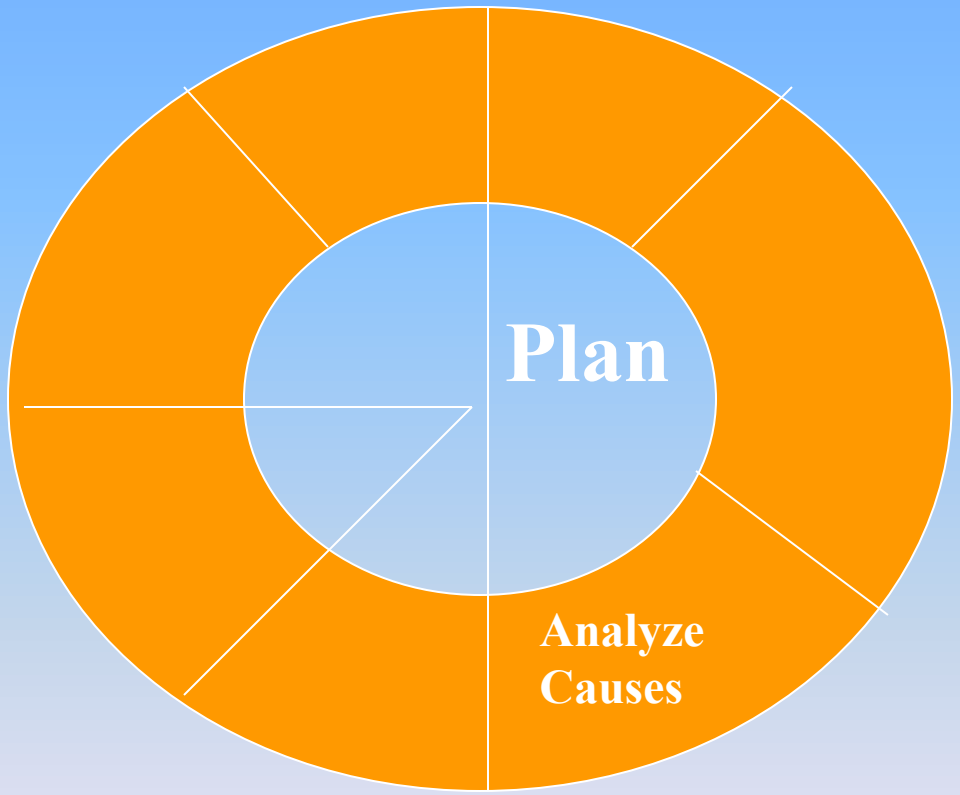



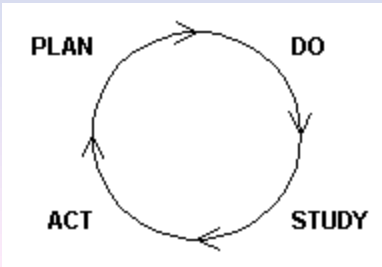
# If it worked, standardize our improvements.



# If it didn’t work, cycle back to analyze and make adjustments



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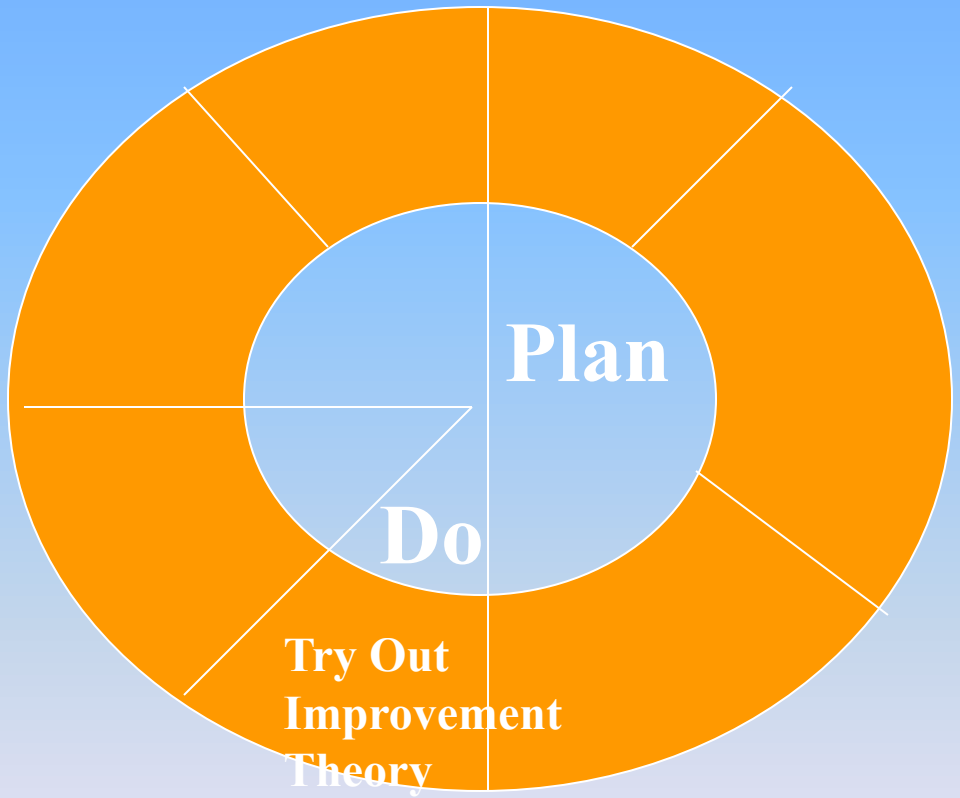


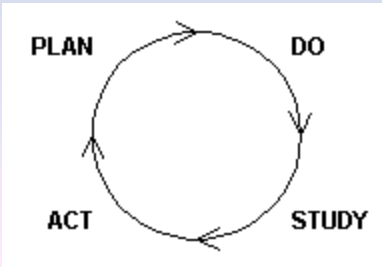

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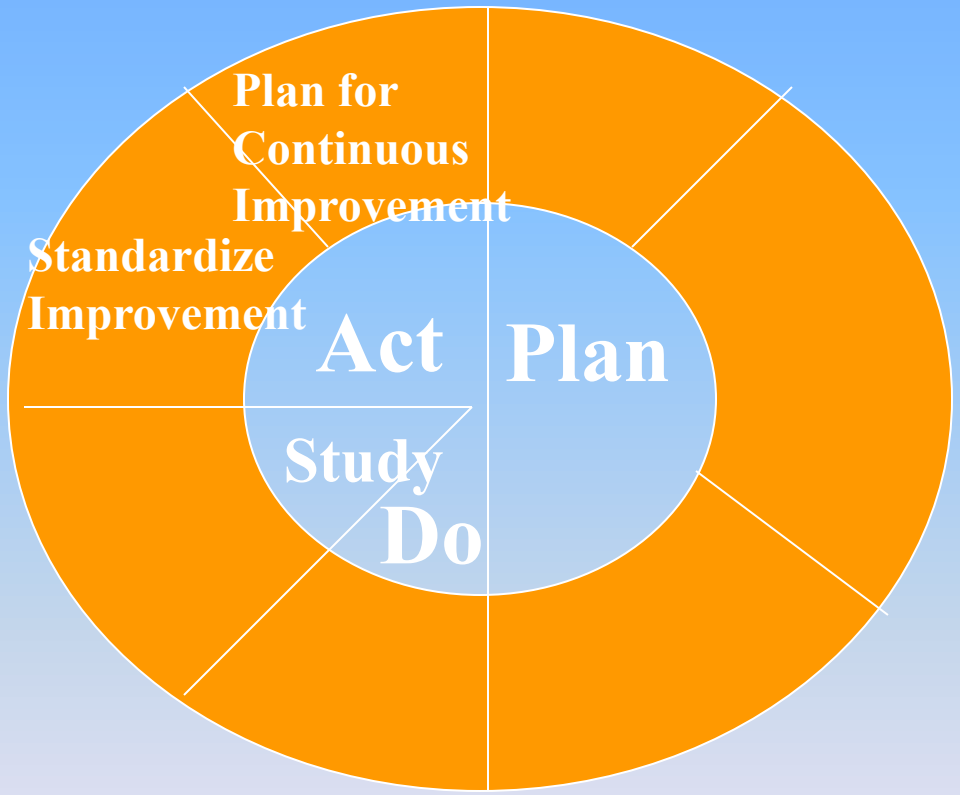


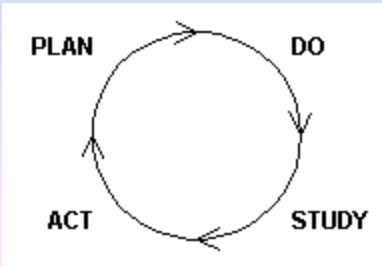

# Intersection of Plan and Budget

Effective Use of Resources – Should we keep doing this?